

WHAT IS CLAIMED IS:

1. A method for a delayed connection release in a connection-oriented data link layer communications protocol, comprising:

establishing a return data link connection between a first node and a second node prior to an initial transmission of data from the first node to the second node; and

delaying a release of the return data link connection after a last transmission of data from the first node to the second node.

2. The method of claim 1, wherein the first node functions as a terminal and the second node functions as a base station over a wireless data link.

3. The method of claim 1, wherein the first node is configured as a client and the second node is configured as a server over a wired data link.

4. The method of claim 1, further comprising the second node determining if the first node desires to transmit new data to the second node, during the delayed release of the return data link connection.

5. The method of claim 4, further comprising delaying the release of the return data link connection based on a return connection release timer.

6. The method of claim 5, further comprising releasing the return data link connection, if it is determined that first node has no more data to transmit to the second node and if the return connection release timer has expired.

7. The method of claim 4, further comprising delaying the release of the return data link connection by stopping the return connection release timer, if it is determined that first node desires to transmit the new data to the second node.

8. The method of claim 7, further comprising the second node allocating return data link connection resources for the transmission of the new data from the first node to the second node over the established return data link connection.

9. The method of claim 1, further comprising the second node determining if the first node is configured to receive an acknowledgement for data transmitted from the first node to the second node.

10. The method of claim 9, further comprising the second node sending a negative acknowledgement for a first node data transmission, if it is determined that the transmission of data from the first node to the second node has failed.

11. A computer-readable medium carrying one or more sequences of one or more

instructions, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps recited in claim 1.

12. A system for delayed connection release in a connection-oriented data link layer communications protocol, comprising:

means for establishing a return data link connection between a first node and a second node prior to an initial transmission of data from the first node to the second node; and

means for delaying a release of the return data link connection after a last transmission of data from the first node to the second node.

13. A system configured to perform delayed connection release in a connection-oriented data link layer communications protocol, comprising:

a second node configured to establish a return data link connection with a first node prior to an initial transmission of data from the first node to the second node; and

the second node configured to delay a release of the return data link connection after a last transmission of data from the first node to the second node.

14. The system of claim 13, wherein the first node is configured as a terminal and the second node is configured as a base station over a wireless data link.

15. The system of claim 13, wherein the first node is configured as a client and the second node is configured as a server over a wired data link.

16. The system of claim 13, wherein the second node is configured to determine if the first node desires to transmit new data to the second node, during the delayed release of the return data link connection.

17. The system of claim 16, further comprising a return connection release timer configured to delay the release of the return data link connection.

18. The system of claim 17, wherein the second node is configured to release the return data link connection, if it is determined that first node has no more data to transmit to the second node and if the return connection release timer has expired.

19. The system of claim 16, wherein the second node is configured to delay the release of the return data link connection by stopping the return connection release timer, if it is determined that first node desires to transmit the new data to the second node.

20. The system of claim 19, wherein the second node is configured to allocate return data link connection resources for the transmission of the new data from the first node to the

second node over the established return data link connection.

21. The system of claim 13, wherein the second node is configured to determine if the first node is configured to receive an acknowledgement for data transmitted from the first node to the second node.

22. The system of claim 21, wherein the second node is configured to send a negative acknowledgement for a first node data transmission, if it is determined that the transmission of data from the first node to the second node has failed.

23. A method for a delayed connection release in a connection-oriented data link layer communications protocol, comprising:

establishing a forward data link connection between a second node and a first node prior to an initial transmission of data from the second node to the first node; and

delaying a release of the forward data link connection after a last transmission of data from the second node to the first node.

24. The method of claim 23, wherein the first node functions as a terminal and the second node functions as a base station over a wireless data link.

25. The method of claim 23, wherein the first node is configured as a client and the second node is configured as a server over a wired data link.

26. The method of claim 23, further comprising the second node determining if new data has arrived at the second node for transmission to the first node, during the delayed release of the forward data link connection.

27. The method of claim 26, further comprising delaying the release of the forward data link connection based on a forward connection release timer.

28. The method of claim 27, further comprising releasing the forward data link connection, if it is determined that new data has not arrived at the second node for transmission to the first node and if the forward connection release timer has expired.

29. The method of claim 26, further comprising delaying the release of the forward data link connection by stopping the forward connection release timer, if it is determined that new data has arrived at the second node for transmission to the first node.

30. The method of claim 29, further comprising the second node scheduling the new data for the transmission from the second node to the first node over the established forward data link connection.

31. The method of claim 23, further comprising the second node determining if the

first node is configured to acknowledge a transmission of data from the second node to the first node.

32. The method of claim 31, further comprising the second node marking missing data for retransmission from the second node to the first node, if it is determined that the transmission of data from the second node to the first node has failed.

33. A computer-readable medium carrying one or more sequences of one or more instructions, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps recited in claim 23.

34. A system for delayed connection release in a connection-oriented data link layer communications protocol, comprising:

means for establishing a forward data link connection between a second node and a first node prior to an initial transmission of data from the second node to the first node; and

means for delaying a release of the forward data link connection after a last transmission of data from the second node to the first node.

35. A system configured to perform delayed connection release in a connection-oriented data link layer communications protocol, comprising:

a second node configured to establish a forward data link with a first node prior to an initial transmission of data from the second node to the first node; and

the second node configured to delay a release of the forward data link connection after a last transmission of data from the second node to the first node.

36. The system of claim 35, wherein the first node is configured as a terminal and the second node is configured as a base station over a wireless data link.

37. The system of claim 35, wherein the first node is configured as a client and the second node is configured as a server over a wired data link.

38. The system of claim 35, wherein the second node is configured to determine if new data has arrived at the second node for transmission to the first node, during the delayed release of the forward data link connection.

39. The system of claim 38, further comprising a forward connection release timer configured to delay the release of the forward data link connection.

40. The system of claim 39, wherein the second node is configured to release the forward data link connection, if it is determined that new data has not arrived at the second

node for transmission to the first node and if the forward connection release timer has expired.

41. The system of claim 38, wherein the second node is configured to delay the release of the forward data link connection by stopping the forward connection release timer, if it is determined that new data has arrived at the second node for transmission to the first node.

42. The system of claim 41, wherein the second node is configured to schedule the new data for the transmission from the second node to the first node over the established forward data link connection.

43. The system of claim 35, wherein the second node is configured to determine if the first node is configured to acknowledge a transmission of data from the second node to the first node.

44. The system of claim 43, wherein the second node is configured to mark missing data for retransmission from the second node to the first node, if it is determined that the transmission of data from the second node to the first node has failed.

45. A system configured to perform delayed connection release in a connection-oriented data link layer communications protocol, comprising:

a second node configured to establish a return data link connection with a first node prior to an initial transmission of data from the first node to the second node;

the second node configured to delay a release of the return data link connection after a last transmission of data from the first node to the second node;

the second node configured to establish a forward data link with the first node prior to an initial transmission of data from the second node to the first node; and

the second node configured to delay a release of the forward data link connection after a last transmission of data from the second node to the first node.

46. The system of claim 45, wherein the first node is configured as a terminal and the second node is configured as a base station over a wireless data link.

47. The system of claim 45, wherein the first node is configured as a client and the second node is configured as a server over a wired data link.